



Department of Defense  
Annual Report  
on  
Cooperative Agreements  
and  
Other Transactions  
Entered into During FY96  
Under 10 USC 2371

**Extent to which the use of Cooperative Agreements and Other Transactions has contributed to a broadening of the industrial and technology base available for meeting Department of Defense needs:**

The use of cooperative agreements and other transactions has contributed to the broadening of the industrial and technology base by increasing access to dual use technologies that can meet both the needs of the Department of Defense and industry. These instruments provide more flexible terms and conditions than the standard financial management and intellectual property provisions typically found in DOD contracts and grants. This flexibility has enabled DOD to attract firms that have historically declined to participate in research projects awarded under procurement contracts.

**Extent to which the use of Cooperative Agreements and Other Transactions has fostered new relationships and practices that support the national security of the United States:**

The use of cooperative agreements and other transactions has fostered new relationships and practices that support the national security of the United States by (1) the joint development of technologies with industry to meet military and commercial needs, and (2) increasing the insertion of commercial technologies into existing systems. These new relationships will ensure that DOD benefits from the latest commercial technological successes and low cost access to commercial capabilities.

**Recoupment of Funds:**

Cooperative Agreements and Other Transactions may contain clauses requiring repayment of funds (i.e. Royalties) to the Defense Components. There were no recoupment payments received in the reporting year by DARPA or the Services.

**Summaries of the transactions:**

Summaries of the individual transactions are provided in the following pages.

**Agreement Number: MDA9729630001**

**Title:** Microwave And Analog Front End Technology (Mafet) Design Environment Technology

**Type of Agreement:** Other Transactions

**Awarding Office:** Defense Advanced Research Projects Agency

**Recipient:** The MAFET Design Environment Consortium

**Effective Date:** 11/02/1995

**Estimated Completion or Expiration Date:** 1 1/01/1998

**U.S. Government Dollars (000): \$28,500**

**Dollars Returned to Government Account: \$0**

**Non-Government Dollars (000): \$ 57,000**

**Technical Objectives of This Effort:**

The overall objective of this Agreement is to reduce microwave and millimeter-wave multi-chip assembly (MCA) and integrated circuit (MMIC) module development cost and cycle time by a factor of 3. The goal is to develop new and enhanced computer aided design tools, improved design process, and accurate models to allow efficient exchange of design information between MMIC/MCA foundries and designers and to foster continued enhancement of microwave and millimeter-wave MCA design capability.

**Potential Military and Commercial Utility of Technologies:**

**Military Utility:** The technology developed under this Agreement will provide for increased performance, decreased development costs, and more capable microwave and millimeter wave sensors for communications, radars and electronic warfare.

**Commercial Utility:** The technology will refine the capabilities needed to develop similar commercial products, such as wireless systems, including pagers, cellular phones, satellite communications systems and collision avoidance systems.

**Reasons For Not Using A Standard Contract or Grant:**

The principal purpose of this agreement is to support and spur the development of enabling or advanced technologies which are critical to the military, and also may have commercial application, through the use of an instrument which reflects a new relationship with industry and broader use of commercial practice. The recipient is a consortium, which will share the results among its members. Use of a standard contract is not appropriate or feasible because the government is not acquiring goods or services for its direct benefit. Rather, benefits of the effort will accrue to all parties to the agreement. Use of a standard grant is not appropriate or feasible, because the government will be involved in the progress of the work to a greater extent than is allowed under a grant. Further, the agreement leverages taxpayer dollars by providing for significant cost sharing by the recipient (DARPA 33% Consortium 67%).

**Agreement Number:** N6600 1963 8900

**Title:** Gas Generator Fire Suppression

**Type of Agreement:** Other Transactions

**Awarding Office:** Naval Research and Development Command

**Recipient:** The Kidde/ Atlantic Consortium

**Effective Date:** 06/18/1996

**Estimated Completion or Expiration Date:** 06/17/1998

**U.S. Government Dollars (000):** \$1,329

**Dollars Returned to Government Account:** \$0

**Non-Government Dollars (000):** \$1,552

**Technical Objectives of This Effort:**

The goal of the program undertaken pursuant to this Agreement is to develop a product based on gas generated fire suppression technology, and to develop the requirements and marketing plans for related products and services ("Program"). Gas Generator Fire Suppression is a method in which an inert gas generator will be used to pressurize an extinguisher in order to expel the liquid/gaseous agent, pure gas agent, and to vaporize the agent in order to enhance the distribution after release. Current technology uses Halons, which is proven to be damaging to the environment and a cause of ozone depletion.

The specific objectives of the research and development undertaken under the auspices of this Agreement are to: (1) develop a gas generated fire suppression system that will provide the same (or higher) level of fire extinguishing coverage as currently used; (2) develop a commercialization plan for the product; and (3) identify specifications for a family of commercial products based on this technology.

**Potential Military and Commercial Utility of Technologies:**

Development of the Gas Generated Fire Suppression System and a family of related products and services. This has a strong Dual-Use element since the resulting commercial product will also be useful to the DoD.

**Reasons For Not Using A Standard Contract or Grant:**

The principal purpose of this agreement is to support and spur the development of enabling or advanced technologies which are critical to the military, and also may have commercial application, through the use of an instrument which reflects a new relationship with industry and broader use of commercial practice. The recipient is a consortium, which will share the results among its members. Use of a standard contract is not appropriate or feasible because the government is not acquiring goods or services for its direct benefit. Rather, benefits of the effort will accrue to all parties to the agreement. Use of a standard grant is not appropriate or feasible, because the government will be involved in the progress of the work to a greater extent than is allowed under a grant. Further, the agreement leverages taxpayer dollars by providing for significant cost sharing by the recipient (NRAD 46% / Consortium 54%).

**Agreement Number:** DAAB07963D759

**Title:** Digital Wireless Communications and Networking Wireless Interworking Testbed

**Type of Agreement:** Other Transactions

**Awarding Office:** U.S. Army Communications-Electronics Command

**Recipient:** The Wireless Interworking Testbed Consortium

**Effective Date:** 05/21/1996

**Estimated Completion or Expiration Date:** 05/21/1998

**U.S. Government Dollars (000):** \$ 1,435

**Dollars Returned to Government Account:** \$0

**Non-Government Dollars (000):** \$1,435

**Technical Objectives of This Effort:**

The technical objectives of this agreement are to establish an industry/government digital wireless communications and video testbed to promote emerging dual use communications technologies for military and commercial applications. The testbed will provide an interoperable, end-to-end, mixed wireless and wireline environment for the demonstration and validation of new technologies, services, products, and standards that impact the global communications market place.

The testbed is a key enabler towards achieving the goal of the National Information Infrastructure to provide a web of interconnected communications networks that seamlessly support the delivery of applications to anyone, anywhere, anytime. It will provide an honest broker performance test capability to assess data and video Interworking of new services and products, and allows the early identification of dual use products, services and standards. It also provides a level of authenticity for items that have been tested in the testbed. For the first time, organizations will be able to verify wireless communication and digital multimedia products for Defense and commercial applications in a truly diverse environment.

**Potential Military and Commercial Utility of Technologies:**

The Wireless Interworking Testbed will promote emerging dual use technologies for military and commercial applications by providing an interoperable, end-to-end, mixed wireless and wireline environment for the demonstration and validation of new technologies and standards that impact the global communications marketplace.

**Reasons For Not Using A Standard Contract or Grant:**

The principal purpose of this agreement is to support and spur the development of enabling or advanced technologies which are critical to the military, and also may have commercial application, through the use of an instrument which reflects a new relationship with industry and broader use of commercial practice. The recipient is a consortium, which will share the results among its members. Use of a standard contract is not appropriate or feasible because the government is not acquiring goods or services for its direct benefit. Rather, benefits of the effort will accrue to all parties to the agreement. Use of a standard grant is not appropriate or feasible, because the government will be involved in the progress of the work to a greater extent than is allowed under a grant. Further, the agreement leverages taxpayer dollars by providing for significant cost sharing by the recipient (CECOM 50% / Consortium 50%).

**Agreement Number:** DASWO19630001

**Title:** Affordable Language Education Software for Government and Commercial Use

**Type Of Agreement:** Other Transaction

**Awarding Office:** Defense Supply Service-Washington

**Recipient:** Affordable Language Education Consortium

**Effective Date:** 06/01/1996

**Estimated Date of Completion or Expiration Date:** 05/31/1998

**U.S. Government Dollars (000):** \$4,671

**Dollars Returned to Government Account:** \$0.00

**Non-Government Dollars (000):** \$6,506

**Technical Objectives of This Effort:**

Coordinated research and development of technology and prototype systems to support multinational and multilingual operations enabling faster, more affordable, more portable language learning and language maintenance software: (a) Develop and evaluate affordable language-learning software for Government and commercial use; (b) Improve existing speech recognition and pronunciation scoring software and port to small platforms (e.g., Pentium-type processors, running 'Windows95', etc.); and (c) Develop tools for porting the technology to new languages and refinements in the types of scoring used.

**Potential Military and Commercial Utility of Technologies:**

All Government agencies, specifically the Departments of Defense and State, may benefit from the resulting technology by enhancement of their critical language needs. The Military Services may utilize the technology for those Defense actions that involve collaboration with nonnative speakers of English. Both Government and civilian law enforcement agencies may benefit in counter-drug efforts, specifically in the initial focus area language of Spanish. Many commercial corporations are multinational and could improve their respective multilanguage capabilities. Components of the technology could be further utilized to leverage bi-directional speech translation efforts and other efforts involving speech recognition.

**Reasons For Not Using A Standard Contract or Grant:**

The principal purpose of this agreement is to support and spur the development of enabling or advanced technologies which are critical to the military, and also may have commercial application, through the use of an instrument which reflects a new relationship with industry and broader use of commercial practice. The recipient is a consortium, which will share the results among its members. Use of a standard contract is not appropriate or feasible because the government is not acquiring goods or services for its direct benefit. Rather, benefits of the effort will accrue to all parties to the agreement. Use of a standard grant is not appropriate or feasible, because the government will be involved in the progress of the work to a greater extent than is allowed under a grant. Further, the agreement leverages taxpayer dollars by providing for significant cost sharing by the recipient. (DSSW - 42%; Consortium- 58%).

**Agreement Number:** MDA97296C0802

**Title:** Arsenal Ship Program

**Type of Agreement:** Other Transactions, Section 845

**Awarding Office:** Defense Advanced Research Projects Agency

**Recipient:** Lockheed Martin

**Effective Date:** 07/11/1996

**Estimated Completion or Expiration Date:** 01/10/1997

**U.S. Government Dollars (000):** \$1,000

**Dollars Returned to Government Account:** \$0

**Non-Government Dollars (000):** \$0

**Technical Objectives of This Effort:**

The overall objective of the arsenal ship program is to define, produce, and support a ship system which will greatly increase peace and war options for the Joint Theater Commander, will be capable and survivable against threats of the 21st Century, will demonstrate in the fleet, current and future technologies, and will develop and transition processes to acquire and support integrated, affordable systems in the future. This is the phase one preliminary concept design which is to investigate innovative design solutions to meet the overall technical objective.

**Potential Military and Commercial Utility of Technologies:**

The Department of Defense and the Navy, in particular, will utilize the arsenal ship for deploying large quantities of offensive weapons to the theater in support of littoral warfare missions. Commercial technology applications are unknown at this time.

**Reasons For Not Using A Standard Contract or Grant:**

The principal purpose of this agreement is to do a prototype project that is directly relevant to weapons or weapons systems proposed to be acquired for the Department of Defense in a demonstration program. The authority for use of an "Other Transaction" in these circumstances is Section 845 of the FY 1994 DOD Authorization Act amended by section 804 of the FY 1997 DOD Authorization Act. This authority allows the use of an agreement under 10 U.S.C. 2371 even if a procurement contract would be feasible or appropriate. The use of this authority opens new opportunities for innovation by utilizing a commercial streamlined procurement process and best commercial practices.